

**Remarks**

This Amendment is in response to the Final Office Action dated **July 7, 2009**. The Final Office Action rejected claims 3, 21, and 22 under 35 USC § 103(a) over Houser (US 6,361,559); rejected claim 2 under 35 USC § 103(a) over Houser in view of Chuter (US 6,293,969); and rejected claims 24 and 27 under 35 USC § 103(a) over Freiburger (US H1978 H).

Claims 2, 3, 24, and 27 are herein amended to provide additional clarity.

Claims 4, 11-16 and 23, previously withdrawn from consideration, have been canceled without prejudice or disclaimer. Applicant reserves the right to prosecute these claims at a later date.

New claims 28-31 have been added. Support may be found at least in paragraphs 17 and 42 of the application. No new matter has been added.

In light of the foregoing amendments and following comments, Applicant's request reconsideration.

**35 USC 103**

Claims 3 and 21-22 are rejected as being unpatentable over Houser et al (US 6361559). The Final Office Action

Claim 2 is rejected as being unpatentable over Houser et al (US 6361559) in view of Chuter (US 6293969).

Claims 24 and 27 are rejected as being unpatentable over Freiburger et al (U.S. H1978 H).

All of the pending claims require the presence of an:

interpenetrating polymer network comprising a non-expanded PTFE matrix (claim 3 and its dependents) or resin (claim 24 and its dependents) having no node and fibril structure

Independent claim 3 further requires that the matrix have distributed therein discrete domains of a solid extractable polymeric material. Independent claim 24 further requires the presence of a solid particulate polymeric component which is incompatible with the non-expanded PTFE resin wherein discrete domains of said polymeric component are distributed throughout the non-expanded PTFE resin and are extractable therefrom.

### **Claims 3 and 21-22**

As to the rejection of claims 3 and 21-22 in light of Houser, the Final Office Action states (in the Office Action of January 27, 2009 and incorporated into the present rejection):

With regard to Claims 3 and 21, Houser et al teach a vascular graft (bypass graft; column 7, lines 3 – 7) comprising an extruded composite of materials that are selected from a group including silicone and PTFE (column 7, lines 3 – 7). It therefore would have been obvious for one of ordinary skill in the art to have provided for an extruded composite of silicone and PTFE, therefore an interpenetrating network of silicone and PTFE, as the group disclosed by Houser et al includes silicone and PTFE. Houser et al therefore disclose an interpenetrating polymer

The above statement of the Office Action does not demonstrate that Houser teaches an interpenetrating polymer network (IPN).

Houser actually states at col. 7, lines 3-7:

Synthetic bypass grafts may be manufactured by extruding, injection molding, weaving, braiding, or dipping polymers such as PTFE, expanded PTFE, urethane, polyoxide, nylon, silicone, polyethylene, collagen, polyester or composites of these representative materials. These

Houser does not include any teaching of how such 'composites' are made. As discussed earlier in the prosecution of this application, an IPN is not simply a mixture of two preformed polymers. To that end, Applicant reproduces below a copy of a page from Wikipedia as well as a page received by the USPTO on January 7, 2004 during the prosecution of this application. (See [http://en.wikipedia.org/wiki/Interpenetrating\\_polymer\\_network](http://en.wikipedia.org/wiki/Interpenetrating_polymer_network)).

#### **Interpenetrating polymer network**

From Wikipedia, the free encyclopedia

An interpenetrating polymer network (IPN) is a cross-linked or entangled polymer network formed by intercalating or crosslinking two or more different polymers. In contrast to simple composites, their mechanical properties can often come close to the properties of individual polymers and therefore can exhibit properties not available in either of them alone.

Alloys, blends, and some polymers based on mixing an interpenetrating polymer network (IPN) with other polymers, variously called coexisting polymer networks or more than one polymer network, are broader terms used to denote the structures of such systems.

There are semi-interpenetrating polymer networks and pseudo-interpenetrating polymer networks.<sup>1</sup>

#### **References**

[edit]

- ^ U.S. Patent and Trademark Office, "IPN," <http://www.uspto.gov/tmdb/patent/definition/IPN.html>
- ^ Springer, M., Polymer Science, Macromolecular Science, Vol. 1, 141-142 (2001)



**interpenetrating polymer network (IPN)**  
A *polymer* comprising two or more networks which are at least partially interlaced on a molecular scale but not covalently bonded to each other and cannot be separated unless chemical bonds are broken.  
A mixture of two or more preformed polymer networks is not an IPN.  
1996, 68, 2305

IUPAC Compendium of Chemical Terminology 2nd Edition (1997)

*RECEIVED*  
JAN 09 2004  
TECHNOLOGY CENTER 28700

---

There is no disclosure in Houser that would teach or suggest to one of ordinary skill in the art that an IPN with PTFE be prepared. Houser is silent to the nature of the composition. It would appear that the Final Office Action, based on paragraph 0035 of the instant application, is mistakenly assuming that any combination of polymers constitutes an IPN. The Final Office Action states:

However, the specification at paragraph 0035 states that blending of the extractable polymeric component with PTFE still results in separation such that removal of the extractable polymeric component leaves a pore or void; the specification therefore discloses that simply blending PTFE and the extractable polymeric component, siloxane, provides an interpenetrating polymer network.

The term IPN is not, however, used to describe the embodiment of paragraph 0035. Rather, the term first appears in the specification, in paragraph 0055. The Application is not stating that merely blend two polymers results in an IPN.

In short, the rejection is not appropriate given Houser's lack of teaching that an IPN is formed. Houser is silent to the nature of the composition. Chuter does not provide the missing teachings.

At least for this reasons, withdrawal of the Houser rejection is requested.

**Claims 24 and 27**

Claims 24 and 27 were rejected under 35 USC § 103(a) over Freiburger. Without acquiescing to the validity of the rejection, claims 24 and 27 are herein amended to provide additional clarity and not for reasons of patentability.

The Final Office Action states:

Freiburger et al fail to disclose a silicone that is solid particulate. However, Freiburger et al disclose a silicone, as discussed above. It would therefore be obvious for one of ordinary skill to select a solid particulate, or liquid silicone, as solid particulate and liquid are physical states of silicone.

First, Freiburger does not disclose 'silicones' in a generic way. Rather, Freiburger discloses the use of polydimethyl siloxane. Second, Freiburger does not teach using a solid, particulate polymer or, as recited in some of the new claims, a cross-linked polymer.

Thus, Applicants request withdrawal of the rejection to claims 24 and 27.

**Conclusion**

Based on at least the foregoing remarks, Applicants request withdrawal of the rejections and allowance of claims 2, 3, 21, 22, 24, and 27-31. Favorable consideration and prompt allowance of these claims is earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in better condition for allowance the Examiner is invited to contact Applicants' undersigned representative at the telephone number listed below.

Respectfully submitted,

VIDAS, ARRETT & STEINKRAUS

Date: September 4, 2009

By: /Jonathan Grad/  
Jonathan Grad  
Registration No.: 41795

6640 Shady Oak Rd., Suite 400  
Eden Prairie, MN 55344-7834  
Telephone: (952) 563-3000  
Facsimile: (952) 563-3001

f:\wpwork\jg\14594us01\_amd\_20090805.doc